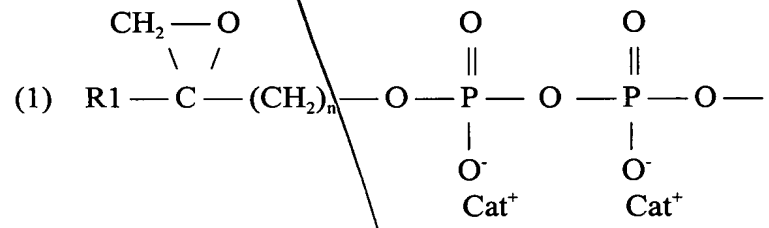
CLAIMS

1) Compounds comprising at least one phosphoepoxide group of the formula:



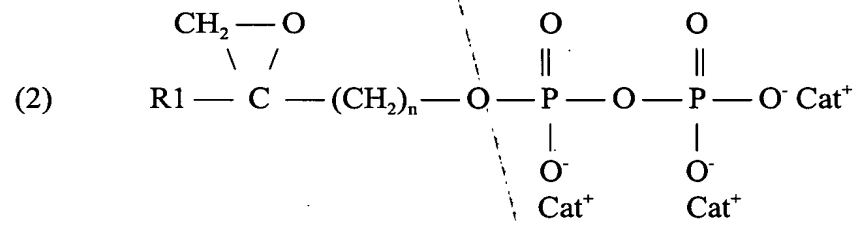
where R1 is selected from among —CH_3 and —CH_2—CH_3,

Cat+ is an organic or inorganic cation,

n is an integer between 2 and 20,

for the use thereof as therapeutically active substances.

2) Phosphoepoxide compounds of the formula:



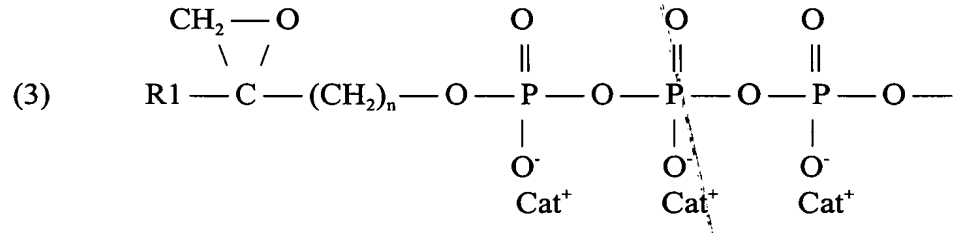
where R1 is selected from among —CH_3 and —CH_2—CH_3,

Cat^+ is an organic or inorganic cation,

n is an integer between 2 and 20,

for the use thereof as therapeutically active substances.

3) Novel compounds comprising at least one phosphoepoxide group of the formula:

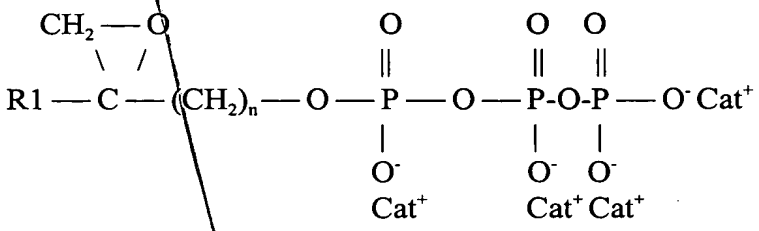


where R1 is selected from among —CH_3 and —CH_2—CH_3,

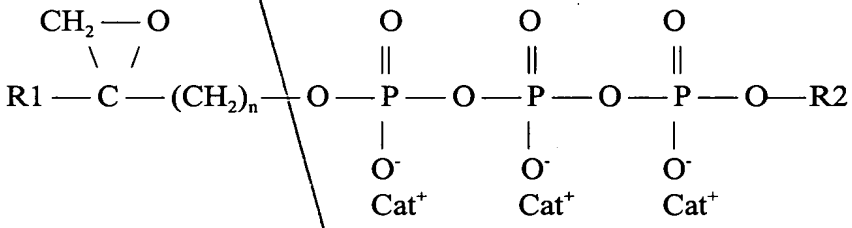
Cat^+ is an organic or inorganic cation,

n is an integer between 2 and 20.

4) Novel phosphoepoxide compounds as claimed in claim 3 of the formula:

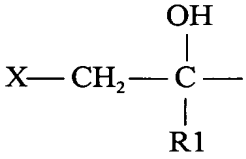
(4) 

5) Novel phosphoepoxide compounds as claimed in claim 3 of the formula:

(5) 

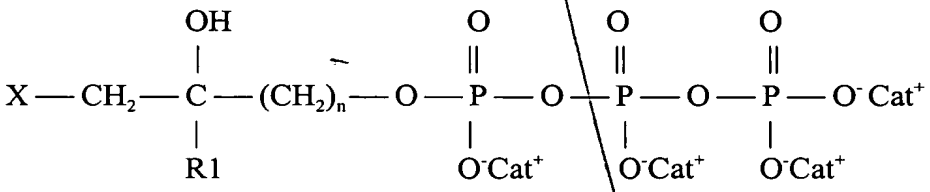
where R2 is an organic or inorganic substituent selected from among the group comprising:

- substituents which do not prevent formation of the halohydrin function

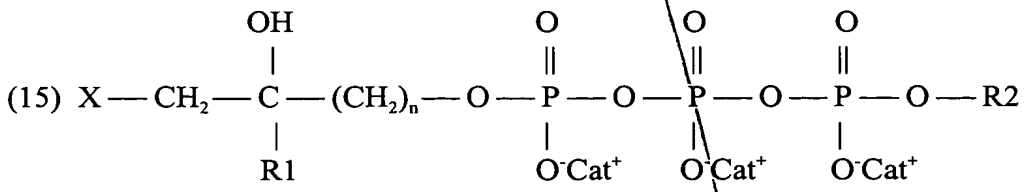
 starting from the alkene function 

and halogen X_2 in the presence of water;

- and substituents for which there is an R2-O-Y compound which is not reactive towards the halohydrin function of the compound of the formula:

(12) 

and selected such that R2-O-Y may react with the terminal phosphate of this compound (12) in order to obtain the compound (15):

(15) 

- and substituents for which there is a compound R2-O-PPP, where PPP denotes the triphosphate group.

6) Compounds as claimed in one of claims 1, 3 and 5, comprising at least one group selected from among the group comprising nucleoside derivatives, oligonucleotides, nucleic acids (RNA, DNA), amino acids, peptides, proteins, monosaccharides, oligosaccharides, polysaccharides, fatty acids, simple lipids, complex lipids, folic acid, tetrahydrofolic acid, phosphoric acids, inositol, vitamins, co-enzymes, flavonoids, aldehydes, halohydrins and epoxides.

7) Compounds as claimed in claims 5 and 6, in which R2 is moreover selected from among the group comprising nucleoside derivatives, oligonucleotides, nucleic acids (RNA, DNA), amino acids, peptides, proteins, monosaccharides, oligosaccharides, polysaccharides, fatty acids, simple lipids, complex lipids, folic acid, tetrahydrofolic acid, phosphoric acids, inositol, vitamins, co-enzymes, flavonoids, aldehydes, halohydrins, phosphoepoxides of the formula (1) and epoxides.

8) Novel phosphoepoxide compounds of the formula:

(21)

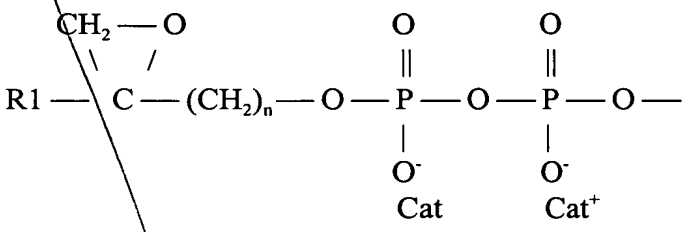
where R1 is selected from among —CH_3 and —CH_2—CH_3,
n is an integer between 2 and 20.

9) Compounds as claimed in one of claims 3 to 5, 7 or 8 for the use thereof as therapeutically active substances.

10) Compounds as claimed in one of claims 1 to 9 for the use thereof as Tγ9δ2 lymphocyte activators.

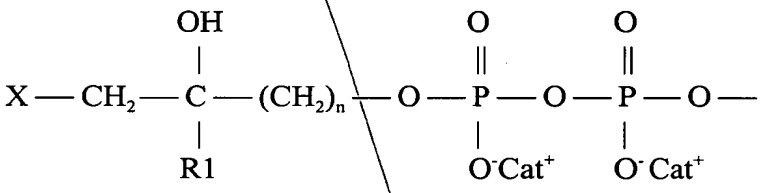
11) Compounds as claimed in one of claims 1 to 10 for the use thereof as Tγ9δ2 lymphocyte antigens in a therapeutic composition, in particular an immunostimulant therapeutic composition or a vaccine, for primates.

12) Process for the production of a compound comprising at least one phosphoepoxide group of the formula:

(1) 

where R1 is selected from among $—CH_3$ and $—CH_2—CH_3$, Cat^+ is an organic or inorganic cation, n is an integer between 2 and 20, wherein:

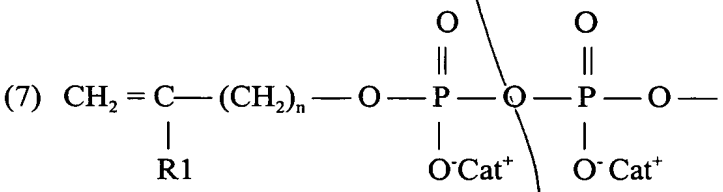
- an intermediate compound comprising at least one phosphohalohydrin group of the formula is first prepared:

(6) 

where X is a halogen selected from among I, Br, Cl,

- the intermediate compound is reacted with a hydroxide-producing medium in order to convert the halohydrin functions of the intermediate compound into epoxide functions.

13) Process as claimed in claim 12, wherein, in order to prepare said intermediate compound, the halogen X2 is reacted in the presence of water with a starting compound comprising at least one phosphorylated alkene group of the formula:

(7) 

14) Process as claimed in one of claims 12 and 13, wherein the intermediate compound is reacted in a basic aqueous medium in order to convert the halohydrin functions of the intermediate compound into epoxide functions.

15) Composition for extracorporeal diagnostics, wherein it comprises at least one compound as claimed in one of claims 3 to 5, 7 or 8.

16) Therapeutic composition, wherein it comprises at least one compound as claimed in one of claims 1 to 8.

17) A therapeutic composition, wherein it comprises a quantity capable of being administered to a primate, in particular in contact with the peripheral bloodstream or topically, of at least one compound as claimed in one of claims 1 to 8.

18) The composition as claimed in one of claims 15 to 17, wherein it moreover comprises primate Tγ9δ2 lymphocytes.

19) The composition as claimed in one of claims 15 to 18, wherein it moreover comprises a proportion of interleukin suitable to bring about lymphocyte growth in the medium into which it is to be administered.

20) A process for the production of a composition having the characteristic of activating Tγ9δ2 lymphocytes, in which at least one compound as claimed in one of claims 1 to 8 is used.

21) A process for the production of a therapeutic composition intended for the preventive or curative treatment of a pathological condition which produces cells sensitive to Tγ9δ2 lymphocytes, in which process at least one compound as claimed in one of claims 1 to 8 is used.

22) A process for the production of a therapeutic composition intended to be administered to a primate for the preventive or curative treatment of a pathological condition which produces cells sensitive to Tγ9δ2 lymphocytes, in which process at least one compound as claimed in one of claims 1 to 8 is used.

23) A process for the production of a therapeutic composition intended to be administered to a primate for the preventive or curative treatment of a pathological condition selected from among the group comprising cancers, infectious diseases, parasitic conditions, and pathological immunodeficiency syndromes, in which process at least one compound as claimed in one of claims 1 to 8 is used.

24) The process according to claim one of claims 20 to 23, in which at least one compound as claimed in one of claims 1 to 11 is brought into contact with a medium which contains Tγ9δ2 lymphocytes, and is compatible with T lymphocyte growth, in a quantity suitable for activating these Tγ9δ2 lymphocytes in this medium.

25) The process as claimed in claim 24, in which said medium comprises a substance selected from among primate blood and primate blood extracts.

26) An extracorporeal Tγ26δ9 lymphocyte activation process, in which the Tγ9δ2 lymphocytes are brought into contact with at least one compound as claimed in one of claims 1 to 8 in an extracorporeal medium which contains Tγ9δ2 lymphocytes and is compatible with T lymphocyte growth.

27) The process as claimed in claim 26, in which at least one compound as claimed in one of claims 1 to 8 is used at a concentration in the medium which brings about activation of polyclonal proliferation of Tγ9δ2 lymphocytes.

28) The process as claimed in one of claims 26 to 27, in which a proportion of interleukin suitable to bring about lymphocyte growth in the medium is introduced into the medium.